What is claimed is;

1. An electron microscope, which comprises: a casing for encasing an assembly and a display disposed to the casing, wherein the assembly comprises a vacuum container, a vacuum pump for evacuating the vacuum container, an electron emitter disposed in the vacuum container, a sample chamber disposed in the vacuum container, and a detector for detecting an electron beam emitted from a sample placed in the sample chamber.

2. The electron microscope as defined in claim 1, wherein the assembly being capable of projecting from the casing.

3. The electron microscope as defined in claim 1, wherein the components constituting the assembly are integrally united in the casing.

4. The electron microscope as defined in claim 1, wherein the vacuum pump is a turbo molecule pump.

5. The electron microscope as defined in claim 1, wherein a shock absorber is disposed between the vacuum pump and the vacuum chamber.

6. The electron microscope as defined in claim 1, wherein the vacuum pump is a turbo molecule pump and a shock absorber is disposed between the vacuum pump and the vacuum chamber.

7. The electron microscope as defined in claim 1, wherein there are a plurality of vacuum pumps, the pumps being arranged symmetrically around the vacuum chamber.

8. The electron microscope as defined in claim 1, wherein the electron emitter is a nano sized wire that has a tip of a radius of curvature

of 100 nm or less.

9. The electron microscope as defined in claim 1, wherein the electron emitter is a carbon nanotube.

10. The electron microscope as defined in claim 1, wherein the casing has the total of the longitudinal length, the lateral length and the height of 150 cm or less, and the weight of the microscope is 25 kg or less.

11. The electron microscope as defined in claim 1, wherein the power consumption is 1500W or less.

12. The electron microscope as defined in claim 1, wherein the vacuum pump is surrounded by a sonic absorber.

13. The electron microscope as defined in claim 1, wherein music player or image display is done during vacuum evacuation.

14. The electron microscope as defined in claim 1, wherein a part of the outer frame of the united electron microscope is transparent-colored

15. An electron microscope, which comprises:

an assembly comprising a vacuum container, an electron emitter, a vacuum pump, a sample chamber and an electron beam detector;

an electron lens for controlling tracks of electron beam;

a display for displaying an image based on signals obtained by the detector; and

a control power source, wherein the members listed above are all encased in a casing.

16. The electron microscope as defined in claim 13, wherein the vacuum pump is a turbo molecule pump, and a shock absorber is disposed between the vacuum pump and the vacuum container.

17. The electron microscope as defined in claim 13, wherein there is a plurality of vacuum pumps, which are symmetrically disposed around the vacuum container.

18. The electron microscope as defined in claim 13, wherein the electron emitter has a carbon nanotube.

19. The electron microscope as define din claim 13, wherein the vacuum pump is a turbo vacuum pump having a plurality of evacuation ports each being different in evacuation capacity, the evacuation port of lower evacuation capacity being disposed at the sample chamber side and the evacuation port of higher evacuation capacity being disposed at the electron emitter side.

20. The electron microscope as defined in claim 13, wherein a part of the casing is a transparent-colored.